The California 2005 Integrated Energy Policy Report deals with a wide range of energy issues. My comments will address transportation fuels.

With respect to transportation fuels California is faced with a crude oil refining capacity short fall to meet driving season requirements and has little excess refining capacity to even meet off peak needs. As California's economy continues to grow, this refining capacity short fall will only continue to grow until it effects year round driving. California refiners have no incentive to add additional refining capacity as it will reduce peak driving season refining margins, plus refiners will have a difficult time recovering the large CAPEX required to build these new crude oil refineries.

California is unique in the US transportation fuels market. Its requirement for cleaner fuels results in virtually no US refinery outside of California capable of producing CARB spec based transport fuels, making California an island with respect to refining capacity. To further exasperate this problem, the US currently lacks about 3 million barrels per day of refining capacity to meet current US demand. How much does this lack of refining capacity cost the consumer, some say as much as 25¢ to 30¢ per gallon for at least 3 months each year. If true, that's over $1 billion per year just in California. This is real money paid out at the fuel pump by Californians that goes straight to the bottom line of California refiners.

Some say that California refiners are whispering in the ears of environmentalists to create opposition to new refineries in California. Corporate profits sometimes make strange bed fellows.

California is looking at many different forms of transportation energy ranging from crude based to wind generated electricity. My comments will address two forms, traditional crude oil based transport fuels and alternative transport liquid fuels. Further I will limit my comments to incentives to recover the capital costs of new refineries and incentives to help alternative fuel refineries when the price of crude drops below today's record levels.

California needs to put incentives in place to add additional refining capacity whether in California or outside of California for the benefit of its driving public. These incentives are required to help offset the cost of recovering the capital investment of a refinery if the refiner is to market this incremental transport fuel capacity at the same price as existing refinery transport fuels at the fuel pump. The exact level of support is difficult to determine as there hasn't been a new crude oil refinery built in the US since the mid 1970's. Crude oil based refineries can cost from $15,000 per installed barrel of daily capacity to $30,000 depending upon who you want to believe.

As an example if you were to build a new 100,000 barrel per day crude oil based refinery at a cost of $28,000/installed barrel, the new refinery would cost $2.8 billion dollars. One would expect that the operating costs of a new refinery will be the same as an exiting refinery, crude oil costs would be the same so the only difference in costs at the refinery gate will be the cost of recovering the capital. Assuming 100% debt which would result in the lowest cost to the public, you can calculate a cost per gallon needed to recover the capital costs. Assuming a 15 year loan at 7.5% interest you would need approximately 21¢/gallon in support to be able to sell this incremental transport fuel supply at the fuel pump for the same price for 15 years. In exchange for agreeing to support the new

incremental refinery during the 15 year period of paying off the capital cost, California may ask for a 25 to 30 year supply dedication..

This is a lot of money to pay the new incremental refiner but the public enjoys additional fuel supply along with the market forces that drive down the price of fuel at the pump when supply meets demand. Certainly not the outcome the California refiner wants but he can choose to participate or not. The other negative, it does nothing to reduce US or California dependence upon crude oil, a key point in California's Energy Policy. To address this last point, California needs to support alternative transport fuel refineries.

Alternative transport fuel refineries face two challenges. First, they generally cost more per installed barrel of daily capacity than a traditional crude oil refinery plus are generally much smaller in capacity further exasperating the installed costs.

As an example Sasol, the world leader in coal to liquid technology estimates that a 80,000 barrel per day coal to liquids refinery will cost approximately $4.8 billion or $60,000 per installed barrel of daily capacity. The CTL refinery will produce a much cleaner fuel than the crude oil refinery and should command a premium at the pump. While this is generally true in Europe, the US, even California, has yet to demonstrate this phenomenon.

Using the same criteria as for the crude oil refinery above, the CTL plant in this example would need 45¢/gallon to recover its capital. There are other cost/savings issues associated with an alternative fuel refinery that will impact the actual level of support needed in order to sell these fuels at the same price as existing crude based fuels at the pump. The CTL plant uses coal, domestic coal and therefore has an added advantage over a crude oil refinery. The CTL plant has a higher operating cost per barrel of output but a lower feedstock cost for coal versus the cost of crude oil today. This brings us to the second challenge to make alternative transport fuel refineries competitive.

At some crude oil price level, alternative fuel refineries are competitive once the capital costs are recovered with no additional support. This level is a moving target depending of the type of alternative fuel refinery and the market value for the feedstock for hat type of refinery. Still at some point alternative fuel refineries don't need financial support to be competitive and should be required to operate on their own economics.

How do you fund this kind of support for incremental refining capacity, two ways. First through lobby efforts at the Federal level for alternative fuel plants that reduce US demand for imported crude oil and crude oil based transportation fuels. As an example there is current federal transport fuel support for ethanol, biodiesel, CNG, coal and bio-mass based Fischer Tropsch fuels and others. While these Federal support programs allow alternative fuel refineries to be built throughout the US, they have to be renewed periodically making long term financing difficult. California can use it influence in the Congress to provide definitive terms of support for alternative fuel refineries. Second, in order to attract alternative fuel refineries plus crude oil fuel refineries to be built in California or to be built outside California but market the incremental transport fuels in California, California's Energy Policy needs to add to the level of federal support to make California the market of choice.

California's support can be spread across multiple levels. X ¢/gallon for incremental transport fuels derived from new crude oil refineries, a second level of support for new alternative fuel refineries, still a third level of support for alternative fuel refineries based upon the delivered price of crude oil in California.

How do you fund these support programs?

The two most common, from the general tax fund or, our recommendation a small tax on all transport fuels that is paid into a transportation fuels fund. As it will take years to build new refining capacity, California is building a pool of funds and knows ahead of time what level and duration of support it can commit to. This is important because if California can guarantee a new refiner a certain level of support so long as they guarantee delivery of incremental transport fuels to the California market, California can lock up supply for this time period.

The transportation fuel pool pays out for incremental refinery supply, but as the price of crude oil rises, the alternative fuel refiner's level of support drops. In addition once the debt service for a new refinery is paid off, that refinery's level of support drops but California still has a requirement to deliver the refinery supply for years to come.

It will not be easy to determine the level of financial support each incremental refiner should receive because it is not the intent of California to enrich refiners, only fairly compensate them for delivering incremental fuel supplies to the state.

While no politician likes to talk about a tax increase to pay for a program, incremental transport fuel supplies will result in Californians paying a lower price at the pump. Alternative transport fuels made with US domestic resources will reduce the US and California dependence on imported crude oil. Reducing US dependence on imported crude oil will have a positive financial impact on the US. The level of savings is difficult to measure but if you believe the National Defense council Foundation, we as citizens pay considerably more* than the pump price in security costs to maintain our present energy policy towards imported crude oil.

Regards,

Richard Peterson

Richard Peterson

President ANGTL

*(The National Defense Council Foundation has performed a very detailed study of the "Cost of Imported Oil" including other factors not considered here showing that this Security Premium could approach $2.00/gallon)